REMARKS/ARGUMENTS

Claim 12 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In accordance with the Examiner's suggestion, Claim 12 has been amended herein to delete the language "is disposed within said initiator and". Accordingly, this rejection should now be obviated.

Claims 1-5, 8-10, 12 and 13-18 stand rejected under 35 U.S.C. 102(b) as being anticipated by Rink et al. (U.S. 5,964,479). For the reasons set forth hereinafter, it is submitted that Claims 1-18, as amended herein, are not anticipated or rendered obvious by the teachings of Rink et al.

Claims 1 and 13, and all of the claims depending therefrom, have been amended herein to recite that the second predetermined pressure is sufficient to create a pressure wave that travels through the pressure vessel at sonic velocity, and the manifold rupture disk is directly exposed to the interior of the pressure vessel in the path of the pressure wave so that, upon the firing of the micro gas generator or initiator, the gas pressure in the initiator housing increases to or exceeds the second predetermined pressure to rupture the initiator rupture disk and create the pressure wave that travels through the pressure vessel to impinge on the manifold rupture disc and create a localized pressure at the manifold rupture disk that equals or exceeds the third predetermined pressure to rupture the manifold rupture disk and allow flow of gas through the manifold before the gas in the pressure vessel is significantly heated and pressurized by the gas flow from the initiator housing.

As stated in the specification, the rupture of the manifold disk by the pressure wave before the gas mixture in the pressure vessel is significantly heated and pressurized by the gas

flowing through the initiator disk allows cool, pressurized gas to enter the manifold and the device to be inflated or pressurized. This is particularly advantageous in the case of an airbag where a cooler inflation gas provides for a maximum up time for rollover events and the like.

The teachings of Rink et al. fail to anticipate or to render obvious the novel recitations in Claims 1-18 as amended herein. First, there is no disclosure in Rink et al. of a creation of a pressure wave that travels through the pressure vessel at sonic velocity to create a localized pressure at the manifold rupture disk to rupture it and allow flow of gas through the manifold before the gas in the pressure vessel is significantly heated and pressurized by the gas flow from the initiator housing. The Examiner's attention is directed to the following portion of the specification of Rink et al. at Column 9, lines 56-67:

> The passage of the reaction products into the gas storage chamber 312 serves to increase both the temperature and the relative amount of gaseous products within the gas storage chamber. Operation of the inflator assembly 310 is thereafter generally similar to that of inflator assembly 210 described above. Specifically when the gas pressure within the gas storage chamber 312 exceeds the structural capability of the burst disc 3344, the disc ruptures or otherwise permits the passage of the heated and hence expanded stored gas as well as reaction products or other material passed into the gas storage chamber 312 from the reaction chamber 313 into the associated airbag.

It is apparent, therefore, that the acetylene-based airbag inflator of Rink et al. does not create a pressure wave that creates a localized pressure at the manifold rupture disk to rupture it and allow flow of gas through the manifold before the gas in the pressure vessel is significantly heated and pressurized by the gas flow from the initiator housing, as specifically recited in Claims 1-18 as amended herein.

Even if a pressure wave were created by the inflator of Rink et al., it would not create a localized pressure at the manifold rupture disk to rupture it before the gas in the pressure vessel is significantly heated and pressurized for the reason that the manifold rupture disk of Rink et al. is covered by a throttle portion, 30, 230 or 330 that prevents a pressure wave from impinging on the manifold rupture disk. In contrast, all of Claims 1-18, as amended herein, recite that the manifold rupture disk is directly exposed to the interior of the pressure vessel in the path of the pressure wave so that the pressure wave can travel through the pressure vessel to impinge on the manifold rupture disk and create the localized pressure at the manifold rupture disk to rupture it before the gas in the pressure vessel is significantly heated and pressurized. Accordingly, all of Claims 1-18 should be allowable over the teachings of Rink et al.

Claims 6 and 7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rink et al. in view of Starozhitsky et al. (U.S. 6364355). The secondary reference was cited for its teaching of a pressure vessel formed of a lightweight high strength material, such as low carbon steel. Other than this disclosure, Starozhitsky et al. fails to add anything of significance to the teachings of Rink et al. with respect to the novel recitations in Claims 1-18, as amended herein. Accordingly, Claims 6 and 7 should be allowable over the combined teachings of these references.

Claim 11 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Rink et al. in view of Green et al. (U.S. 6286864). The secondary reference to Green et al. was cited for its disclosure of a manifold constructed to provide for radial or axial flow therefrom. Other than this limited disclosure, Green et al. fails to add anything of significance to the teachings of Rink et al. with respect to the novel recitations in Claims 1-18 as amended herein. Accordingly, Claim 11 should be allowable over the combined teachings of these references.

In view of the above amendments and remarks, it is submitted that Claims 1-18, as amended herein, are allowable to Applicants and formal allowance thereof is earnestly solicited.

Respectfully submitted,

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